

For the purpose of this specification, the transmitter control operation can be performed by one or more dedicated or shared logic or processor or any other computing devices, *e.g.* personal computer or other kind of computer that may be integrated or external or even remote. Insofar as the functions performed by these logic or processor or computing devices relate to the operation of the transmitter they are considered a part of the transmitter for the purpose of this specification. The same claim is made for all the receiver functions.

In the illustrative embodiment described here, references are made to several elements such as generators, logic, registers, control operations, *etc.* It is to be understood that various elements described here can be realized in several different forms including software and hardware in their various forms and combinations. *E.g.* the "logic" can be a hardware such as a gate or memory element, or it can be a piece of software to perform a certain task. In the later case, logic simply means "intelligence".

Although illustrative embodiments of the invention have been described in detail herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various changes and modifications can be effected therein by one skilled in art without departing from the scope and spirit of the invention as defined by the appended claims.

It is to be understood that the above-described embodiments are merely illustrative of the invention and that many variations may be devised by those skilled in the art without departing from the scope of the invention. It is therefore intended that such variations be included within the scope of the following claims and their equivalents.

What is claimed is

1 1. A telemetry system comprising:

2 a plurality of transmitters, each of which is for transmitting routine transmissions intermittently at
3 time intervals and for transmitting, in response to an urgency, at least one urgent transmission at at least
4 one urgent transmission opportunity, and

5 a receiver for holding, simultaneously for each of said plurality of transmitters, time data
6 indicative of an expected time of at least one future urgent transmission opportunity; wherein

7 each of said plurality of transmitters is for transmitting independently of any apparatus capable of
8 receiving any of said transmissions from any of said plurality of transmitters.

1 2. The system of claim 1 wherein said receiver is further for holding, simultaneously for each of
2 said plurality of transmitters, time data indicative of an expected time of at least one future routine
3 transmission.

1 3. The system of claim 1 or 2 wherein, for each of said plurality of transmitters, at least one of:

2 (a) the frequencies of urgent transmission opportunities,

3 (b) the time intervals between urgent transmission opportunities,

4 (c) the frequencies of routine transmissions, and

5 (d) the time intervals between routine transmissions,

6 is varied according to at least one pattern.

1 4. The system of claim 3 wherein said receiver is further for at least one of:

2 (a) holding, simultaneously for each of said plurality of transmitters, frequency data indicative of
3 an expected frequency of at least one future urgent transmission opportunity, and

4 (b) holding, simultaneously for each of said plurality of transmitters, frequency data indicative of
5 an expected frequency of at least one future routine transmission.

1 5. The system of claim 3 wherein at least one said pattern is different for each of said plurality of
2 transmitters.

1 6. The system of claim 3 wherein, for each of said plurality of transmitters, a pattern for
2 determination of said urgent transmission opportunities is synchronized with a pattern for determination
3 of said routine transmissions.

1 7. The system of claim 3 wherein, for each of said plurality of transmitters, said routine
2 transmissions are determined on basis comprising decimating a pattern for determination of said urgent
3 transmission opportunities.

1 8. A method of operating a telemetry system comprising:
2 transmitting, by each of a plurality of transmitters, routine transmissions intermittently at time
3 intervals and transmitting, in response to an urgency, at least one urgent transmission at at least one
4 urgent transmission opportunity, and
5 holding, by a receiver, simultaneously for each of said plurality of transmitters, time data
6 indicative of an expected time of at least one future urgent transmission opportunity; wherein

7 each of said plurality of transmitters transmits independently of any apparatus capable of
8 receiving any of said transmissions from any of said plurality of transmitters.

1 9. A method of claim 8 further comprising holding, by said receiver, simultaneously for each of
2 said plurality of transmitters, time data indicative of an expected time of at least one future routine
3 transmission.

1 10. A method of claim 8 or 9 wherein, for each of said plurality of transmitters, at least one of:

- 2 (a) the frequencies of urgent transmission opportunities,
- 3 (b) the time intervals between urgent transmission opportunities,
- 4 (c) the frequencies of routine transmissions, and
- 5 (d) the time intervals between routine transmissions,

6 is varied according to at least one pattern.

1 11. The method of claim 10 further comprising at least one of:

- 2 (a) holding, simultaneously for each of said plurality of transmitters, frequency data indicative of
3 an expected frequency of at least one future urgent transmission opportunity, and
- 4 (b) holding, simultaneously for each of said plurality of transmitters, frequency data indicative of
5 an expected frequency of at least one future routine transmission.

1 12. The method of claim 10 wherein at least one said pattern is different for each of said plurality
2 of transmitters.

1 **13.** The method of claim 10 wherein, for each of said plurality of transmitters, a pattern for
 2 determination of said urgent transmission opportunities is synchronized with a pattern for determination
 3 of said routine transmissions.

1 **14.** The method of claim 10 wherein, for each of said plurality of transmitters, said routine
 2 transmissions are determined on basis comprising decimating a pattern for determination of said urgent
 3 transmission opportunities.

1 **15.** A receiver comprising:

2 (i) logic for holding, for each plurality of urgent transmission opportunities, time data indicative
 3 of an expected time of at least one future urgent transmission opportunity, wherein each said plurality of
 4 urgent transmission opportunities is for different one of a plurality of transmitters, and

5 (ii) a circuit for:

6 (a) receiving, from each of said plurality of transmitters, urgent transmissions transmitted
 7 in response to an urgency, and

8 (b) receiving, from each of said plurality of transmitters, routine transmissions
 9 transmitted intermittently at intervals;

10 wherein each of said plurality of transmitters is for transmitting independently of any apparatus
 11 capable of receiving any of said transmissions from any of said plurality of transmitters.

1 **16.** A receiver of claim 15 wherein, for each of said plurality of transmitters, at least one of:

2 (a) the expected frequencies of urgent transmission opportunities,

3 (b) the expected time intervals between urgent transmission opportunities,

4 (c) the expected frequencies of routine transmissions, and

5 (d) the expected time intervals between routine transmissions,

6 is varied according to at least one pattern.

1 **17.** The receiver of claim 16 wherein said logic is further for holding, simultaneously for each of
 2 said plurality of transmitters, frequency data indicative of an expected frequency of at least one future
 3 urgent transmission.

1 **18.** The receiver of claim 16 wherein said logic is further for holding, simultaneously for each of
 2 said plurality of transmitters, data indicative of an expected time and an expected frequency of at least one
 3 future routine transmission.

19. The receiver of claim 16 wherein, when operative, said receiver performs, for each of said plurality of transmitters, updates of said time data, wherein at least one of said updates is on basis comprising a difference between an actual and an expected time of a routine transmission.

20. A plurality of telemetry transmitters, each of which comprises:

(i) logic for holding time data indicative of time of at least one future urgent transmission opportunity, and

(ii) circuit for:

(a) transmitting routine transmissions intermittently at intervals, and

(b) transmitting, in response to an urgency, at least one urgent transmission at at least one urgent transmission opportunity;

wherein each of said plurality of transmitters is for transmitting independently of any apparatus capable of receiving any of said transmissions from any of said plurality of transmitters.

21. The plurality of transmitters of claim 1 wherein, in each of said plurality of transmitters, at least one of:

(a) the frequencies of urgent transmissions opportunities,

(b) the time intervals between urgent transmission opportunities,

(c) the frequencies of routine transmissions, and

(d) the time intervals between routine transmissions,

is varied according to at least one pattern.

22. The plurality of transmitters of claim 21 wherein at least one said pattern is different for each of said plurality of transmitters.

23. The plurality of transmitters of claim 21 wherein, for each of said plurality of transmitters, a pattern for determination of said urgent transmission opportunities is synchronized with a pattern for determination of said routine transmissions.

24. The plurality of transmitters of claim 21 wherein, for each of said plurality of transmitters, said routine transmissions are determined on basis comprising decimating a pattern for determination of said urgent transmission opportunities.

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